

Appendix A

ESEM/EDS Data for Test #4 Day-5 Fiberglass in Low-Flow Zone

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During ICET Test #4, work was continued for the purpose of identifying the origin and chemical composition of the products that were formed during the test. One objective of ICET tests is to identify the composition of debris on fiberglass and the particulate substances in the test solution. To address this question partially, low-flow fiberglass samples on Test #4 Day 5 were examined by Environmental SEM (ESEM)/EDS, including both of the exterior and the interior location of the fiberglass samples.

ESEM was employed to analyze the hydrated fiberglass samples without any coating under a low vacuum condition (i.e., 80 Pa). This process minimizes the modification of the fiberglass samples compared to normal SEM that would involve a drying process. EDS results provide a semi-quantitative elemental analysis of the debris attached on fiberglass.

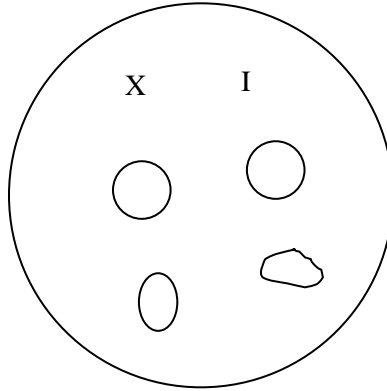
Test #4 Day 5 low-flow fiberglass samples were obtained on May 29, 2005 (5th date for Test #4). ESEM/EDS data presented here were obtained on May 31, 2005.

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Transcribed Laboratory Log

Laboratory session from May 31, 2005.

ESEM/EDS Test #4 Day-5 Fiberglass in low-flow zone.



ESEM Exterior Low-flow Fiberglass Samples

Image:	T4D5LFX1	80 ×	ESEM image	Figure A-1
	t4d5lfx4	80 ×	ESEM at higher magnification	Figure A-2
	t4d5lfx2	500 ×		Figure A-3
	t4d5lfx3	1000 ×		Figure A-4
	t4d5lx11	1000 ×		Figure A-5
	t4d5lx14	500 ×		Figure A-6
	t4d5lx12	1000 ×		Figure A-7
EDS:	t4d5lx13			Figure A-8

ESEM Interior Low-flow Fiberglass Samples.

Image:	t4d5lfi5	80 ×	ESEM image	Figure A-9
	t4d5lfi6	500 ×	ESEM at higher magnification	Figure A-10
	t4d5lfi7	500 ×		Figure A-11
	t4d5lfi8	2000 ×		Figure A-12
	t4d5lfi9	1000 ×		Figure A-13
	t4d5li10	1000 ×		Figure A-14
	t4d5li15	500 ×		Figure A-15

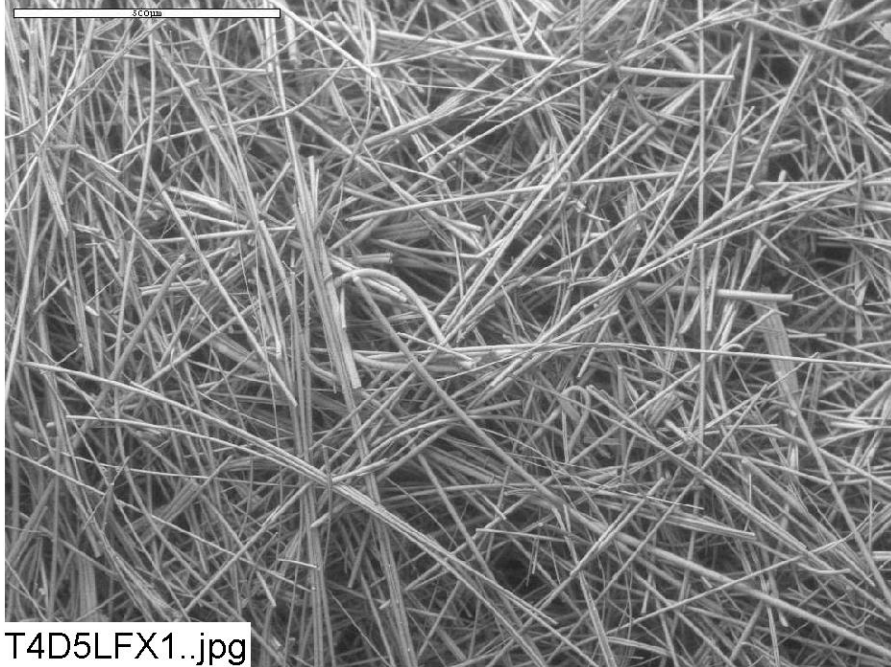


Figure A-1: Environmental SEM image magnified 80 times for a Test #4 Day-5 low-flow exterior fiberglass sample. (T4D5LFX1.jpg)

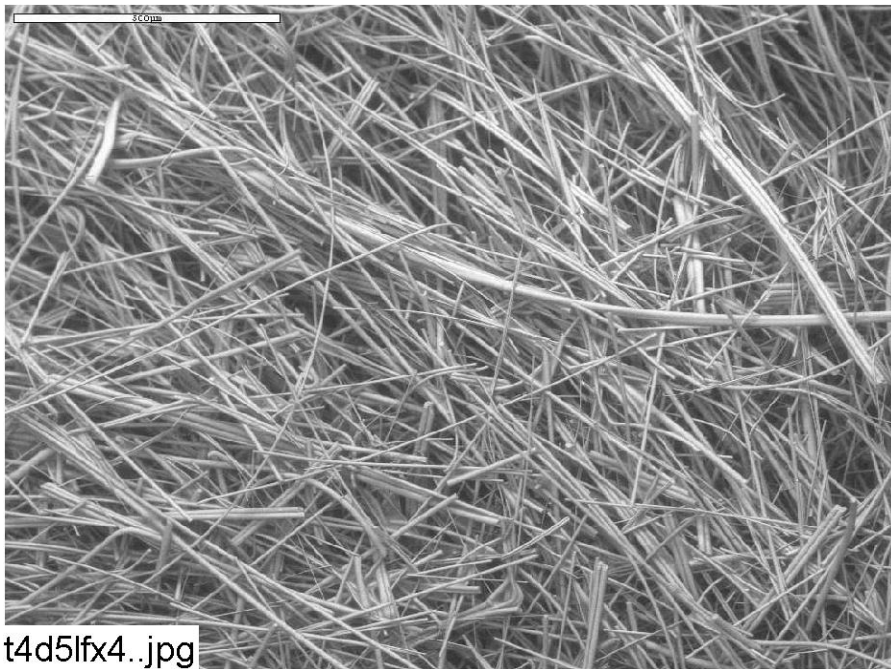


Figure A-2: Environmental SEM image magnified 80 times for a Test #4 Day-5 low-flow exterior fiberglass sample. (t4d5lfx4.jpg)

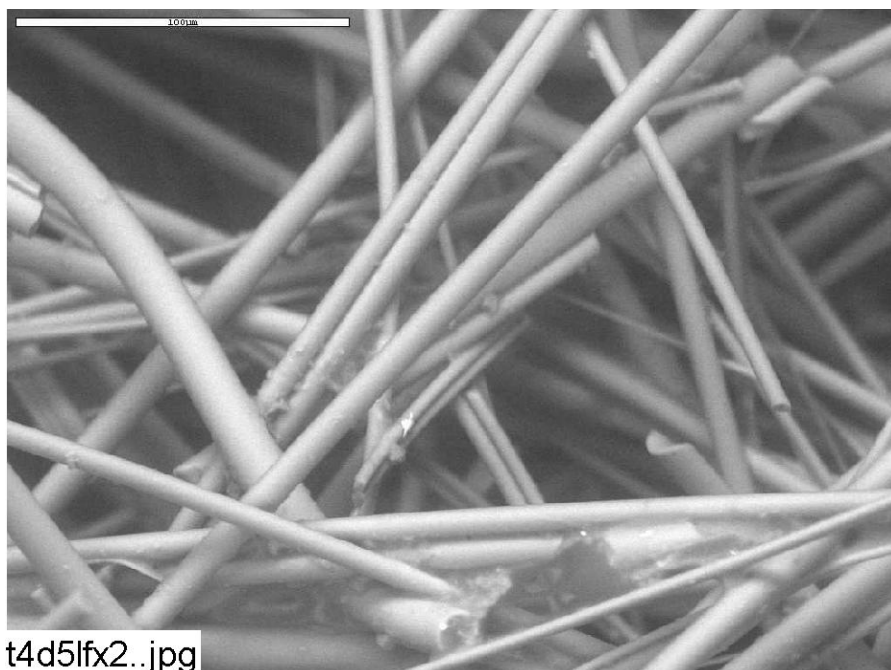


Figure A-3: Environmental SEM image magnified 500 times for a Test #4 Day-5 low-flow exterior fiberglass sample. (t4d5lfx2.jpg)

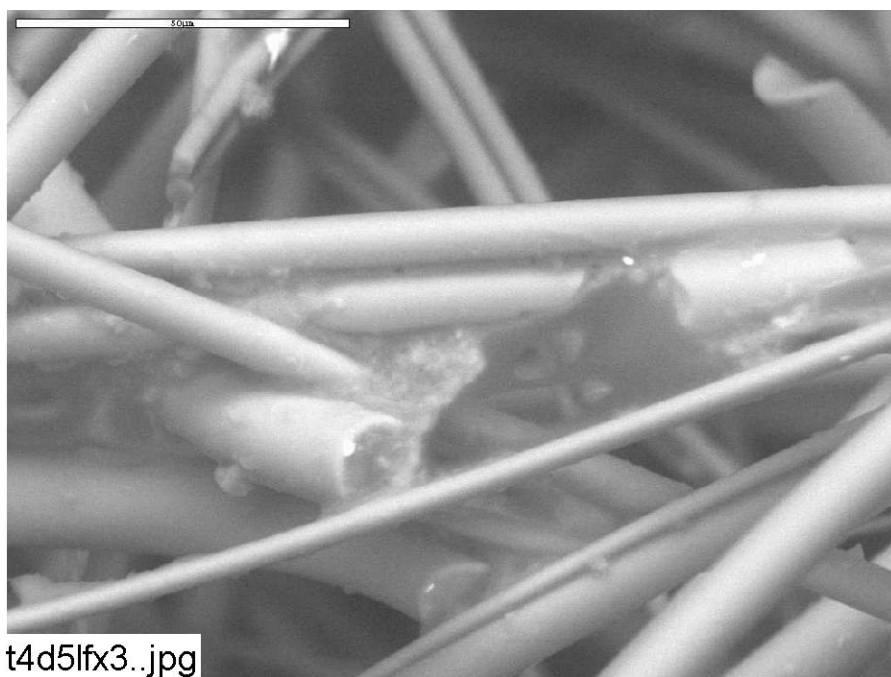


Figure A-4: Environmental SEM image magnified 1000 times for a Test #4 Day-5 low-flow exterior fiberglass sample. (t4d5lfx3.jpg)

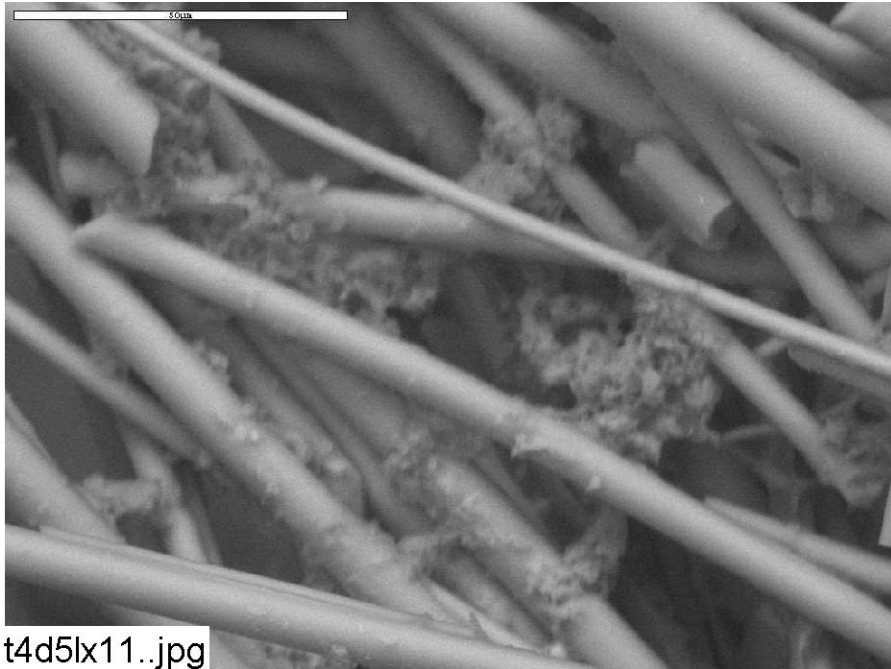


Figure A-5: Environmental SEM image magnified 1000 times for a Test #4 Day-5 low-flow exterior fiberglass sample. (t4d5lx11.jpg)

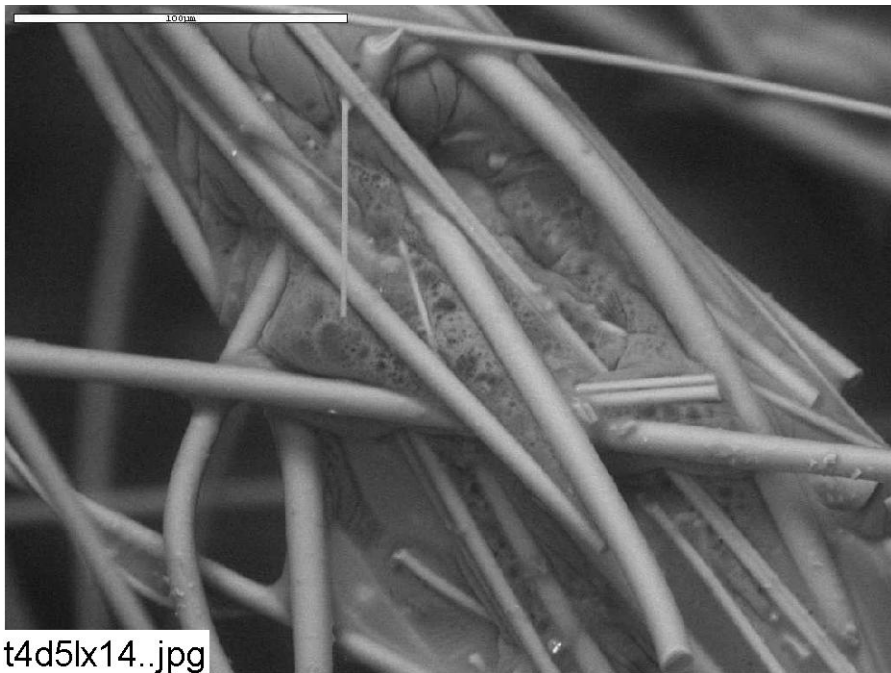


Figure A-6: Environmental SEM image magnified 500 times for a Test #4 Day-5 low-flow exterior fiberglass sample. (t4d5lx14.jpg)

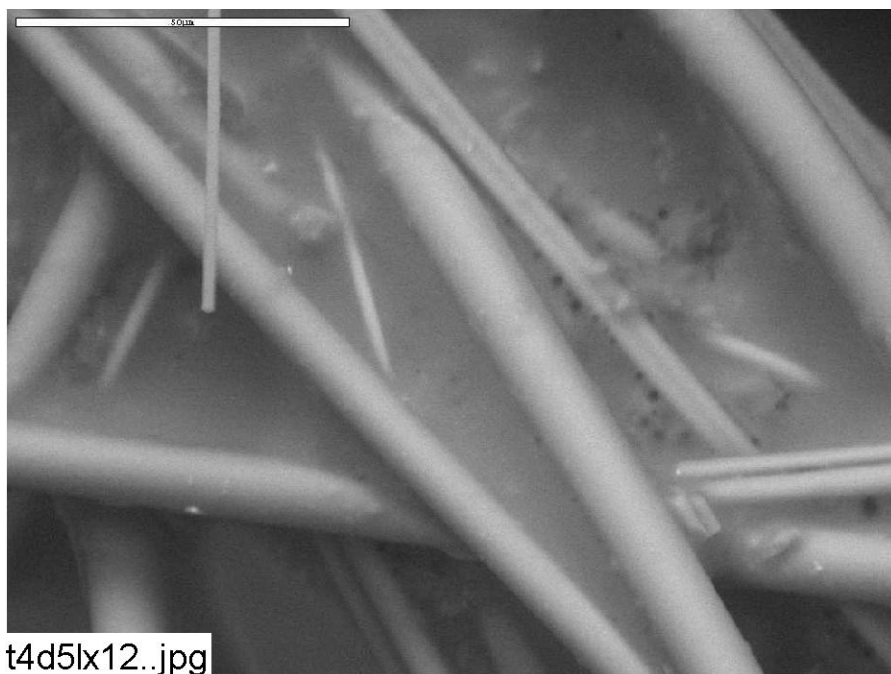


Figure A-7: Environmental SEM image magnified 1000 times for a Test #4 Day-5 low-flow exterior fiberglass sample. (t4d5lx12.jpg)

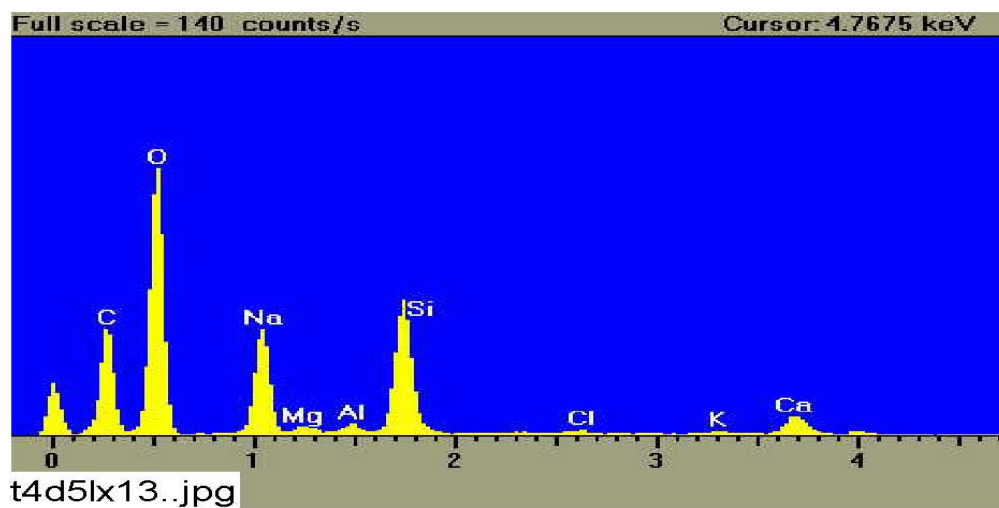


Figure A-8: EDS counting spectrum for the film between the fibers shown in Figure A-7. (t4d5lx13.jpg)

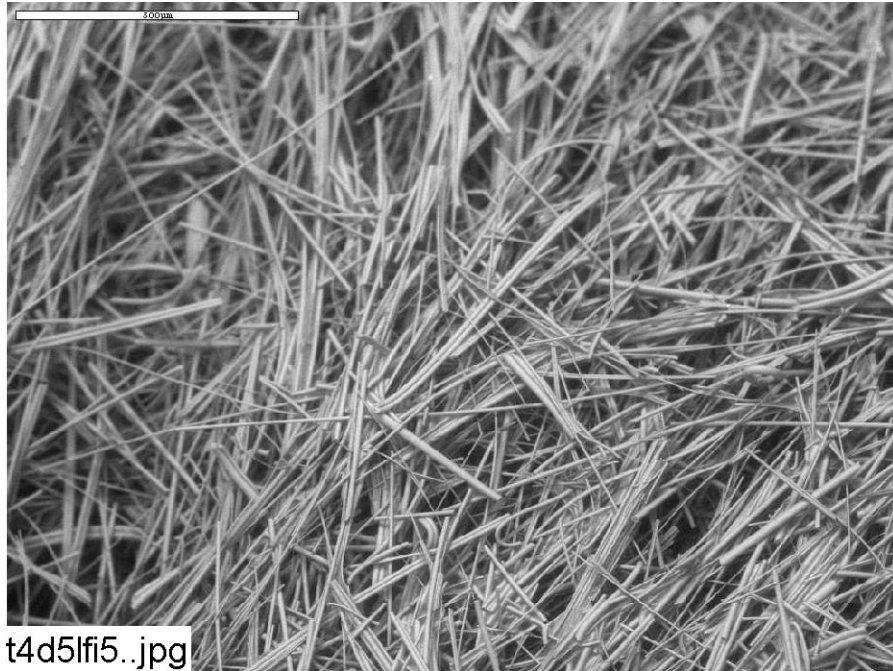


Figure A-9: Environmental SEM image magnified 80 times for a Test #4 Day-5 low-flow interior fiberglass sample. (t4d5lfi5.jpg)

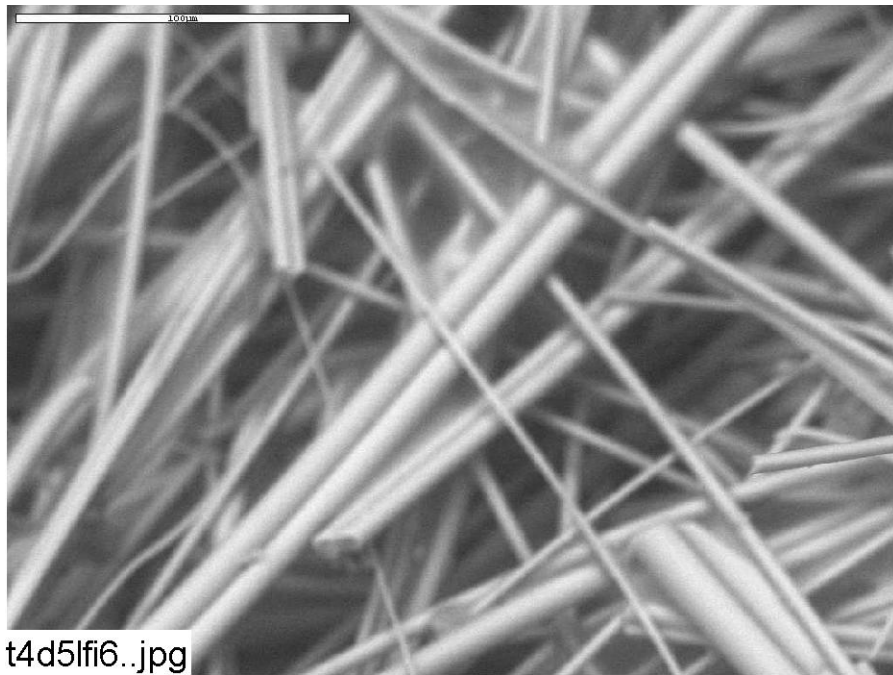


Figure A-10: Environmental SEM image magnified 500 times for a Test #4 Day-5 low-flow interior fiberglass sample. (t4d5lfi6.jpg)

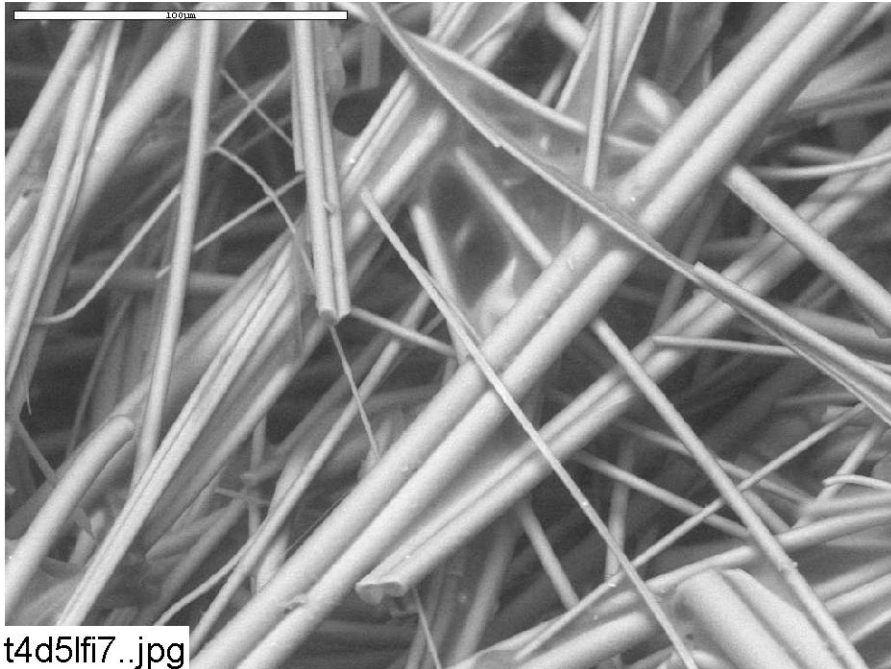


Figure A-11: Environmental SEM image magnified 500 times for a Test #4 Day-5 low-flow interior fiberglass sample. (t4d5lfi7.jpg)

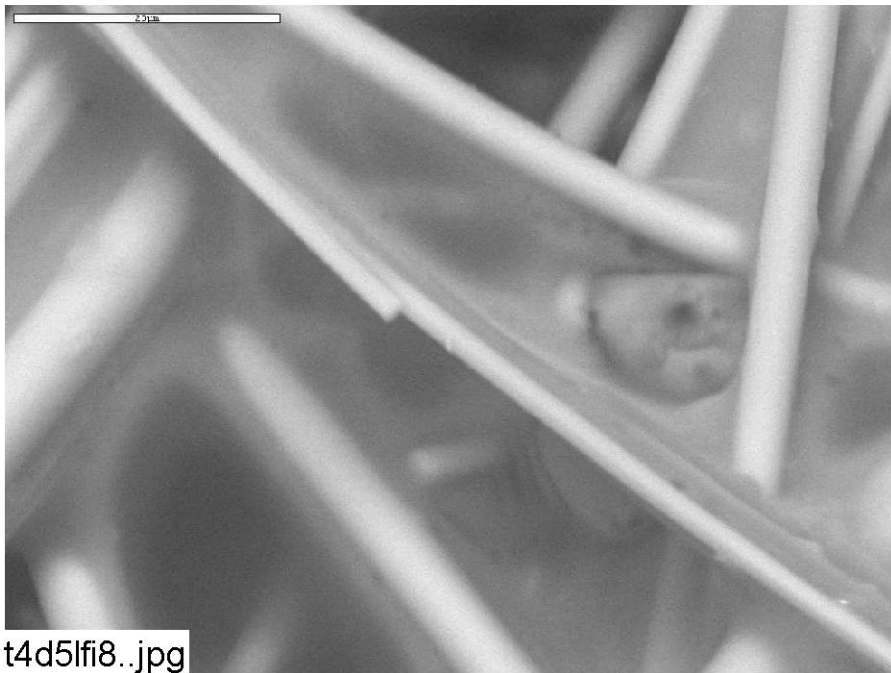


Figure A-12: Environmental SEM image magnified 2000 times for a Test #4 Day-5 low-flow interior fiberglass sample. (t4d5lfi8.jpg)

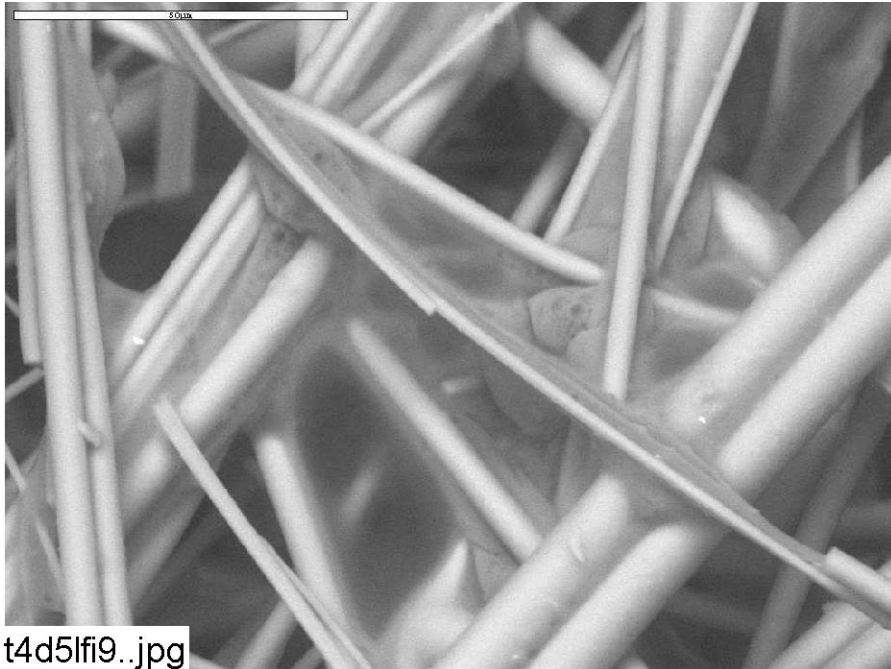


Figure A-13: Environmental SEM image magnified 1000 times for a Test #4 Day-5 low-flow interior fiberglass sample. (t4d5lf9.jpg)

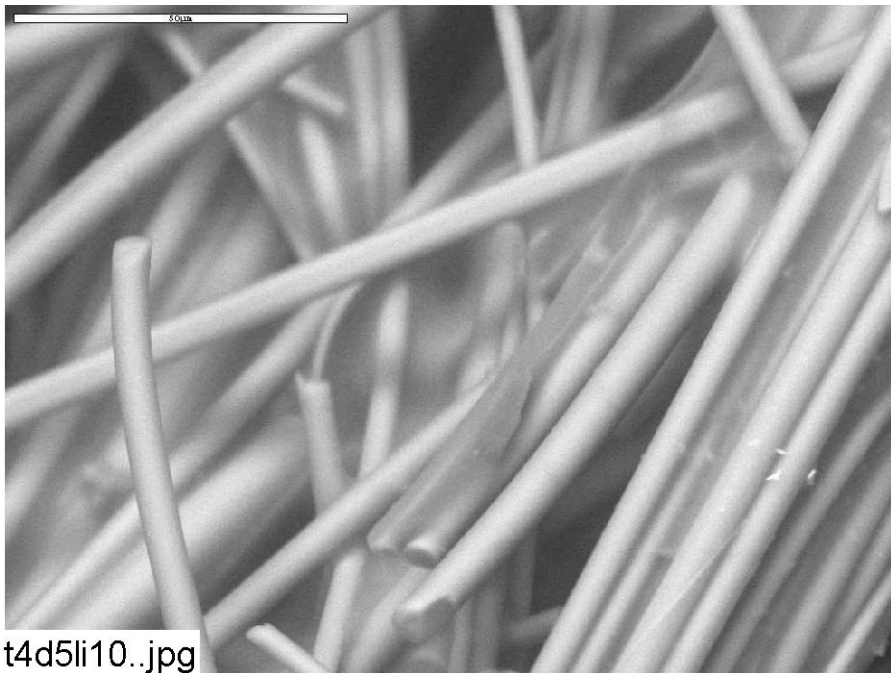


Figure A-14: Environmental SEM image magnified 1000 times for a Test #4 Day-5 low-flow interior fiberglass sample. (t4d5li10.jpg)

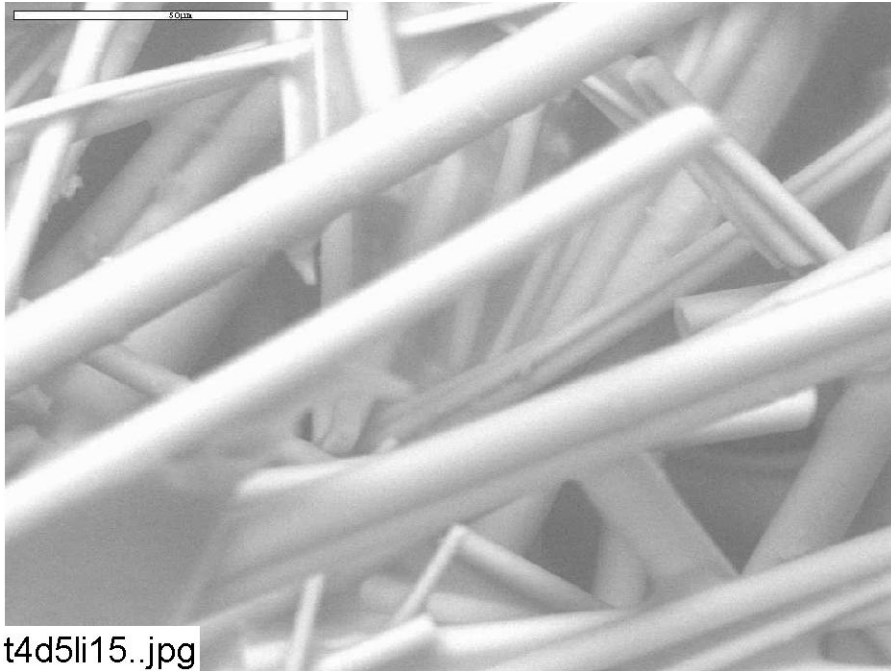


Figure A-15: Environmental SEM image magnified 500 times for a Test #4 Day-5 low-flow interior fiberglass sample. (t4d5li15)